

Title (en)

EDGE ROUNDED FIELD EFFECT TRANSISTORS AND METHODS OF MANUFACTURING

Title (de)

ABGERUNDETE FELDEFFEKTTRANSISTOREN UND HERSTELLUNGSVERFAHREN

Title (fr)

TRANSISTORS À EFFET DE CHAMP À BORDS ARRONDIS ET LEURS PROCÉDÉS DE FABRICATION

Publication

EP 2656381 A4 20171101 (EN)

Application

EP 11850857 A 20111219

Priority

- US 97375610 A 20101220
- US 2011065930 W 20111219

Abstract (en)

[origin: US2012153377A1] Embodiments of the present technology are directed toward gate sidewall engineering of field effect transistors. The techniques include formation of a blocking dielectric region and nitridation of a surface thereof. After nitridation of the blocking dielectric region, a gate region is formed thereon and the sidewalls of the gate region are oxidized to round off gate sharp corners and reduce the electrical field at the gate corners.

IPC 8 full level

H01L 29/78 (2006.01); **H01L 29/66** (2006.01)

CPC (source: CN EP KR US)

H01L 21/28202 (2013.01 - CN EP KR US); **H01L 29/40117** (2019.07 - CN EP US); **H01L 29/4234** (2013.01 - KR); **H01L 29/518** (2013.01 - CN EP KR US); **H10B 43/30** (2023.02 - CN EP KR US)

Citation (search report)

- No further relevant documents disclosed
- See references of WO 2012087978A2

Designated contracting state (EPC)

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DOCDB simple family (publication)

US 2012153377 A1 20120621; **US 9412598 B2 20160809**; CN 103380488 A 20131030; CN 103380488 B 20170208; CN 106847686 A 20170613; CN 106847686 B 20200424; EP 2656381 A2 20131030; EP 2656381 A4 20171101; JP 2013546206 A 20131226; JP 2015173298 A 20151001; JP 5774720 B2 20150909; JP 6039757 B2 20161207; KR 101983682 B1 20190529; KR 20140003492 A 20140109; WO 2012087978 A2 20120628; WO 2012087978 A3 20120927

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US 97375610 A 20101220; CN 201180067895 A 20111219; CN 201710028767 A 20111219; EP 11850857 A 20111219; JP 2013544874 A 20111219; JP 2015132867 A 20150701; KR 20137019143 A 20111219; US 2011065930 W 20111219